

A New Coralline Boring Species of *Polydora* (Polychaeta: Spionidae) from Northern California

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Abstract.—A new coralline boring species of *Polydora* (Polychaeta: Spionidae) from Northern California by James A. Blake, *Bull. Southern California Acad. Sci.*, 80(1):32-35. A new species of *Polydora* is described from Tomales Point in northern California. The species is a borer in coralline algae and related to the *P. giardi* group. It differs from its closest relatives in having posterior notopodial spines and a four lobed pygidium.

Nine species of *Polydora* and *Boccardia* (Family Spionidae) were reported to be borers in coralline algae by Blake and Evans (1973). While examining samples of *Lithophyllum pacificum* Foslief collected from Tomales Point (Point Reyes National Seashore) in northern California, a new species of *Polydora* was discovered. This new species shares affinities with *P. giardi* Mesnil, which occurs in the same alga (Day and Blake 1979), but differs in several significant features. A description of this new species is presented herein, along with a discussion of its taxonomic affinities.

The type collection is deposited in the National Museum of Natural History (USNM).

Polydora bifurcata, new species

Figures 1-2

Material examined.—CALIFORNIA, Point Reyes National Seashore, Tomales Point, 38°14'N; 122°59'W, intertidal, boring into the coralline alga, *Lithophyllum pacificum*, March 1970, coll. J. A. Blake, holotype (USNM 58976) and one paratype (USNM 58977).

Description.—Holotype incomplete, measuring 6.7 mm long and 0.5 mm wide for 63 segments; paratype complete, broken into two parts, measuring 4.7 mm long and 0.5 mm wide for 35 segments. Color: light tan in alcohol, no body pigment.

Prostomium strongly bifurcate, forming two prominent lobes (Fig. 1A); caruncle with folds, extending posteriorly into setiger 5; narrow field of nuchal ciliation surrounding caruncle; no occipital tentacle; no eyes. Peristomium narrow; palps short, possibly regenerating on both specimens.

Setiger 1 well developed, with parapodia shifted dorsally; postsetal noto- and neuropodial lamellae prominent; capillary noto- and neurosetae present. Noto- setae of setigers 2-4, 6 and subsequent setigers with two-tiered fascicles of unilimbate capillaries, setae of first tier being shorter and thicker than second tier; posterior setigers with five to six long, thin capillaries and three to four thicker curved, pointed acicular spines (Fig. 2D). Neurosetae of setigers 2-4, and 6 sim-

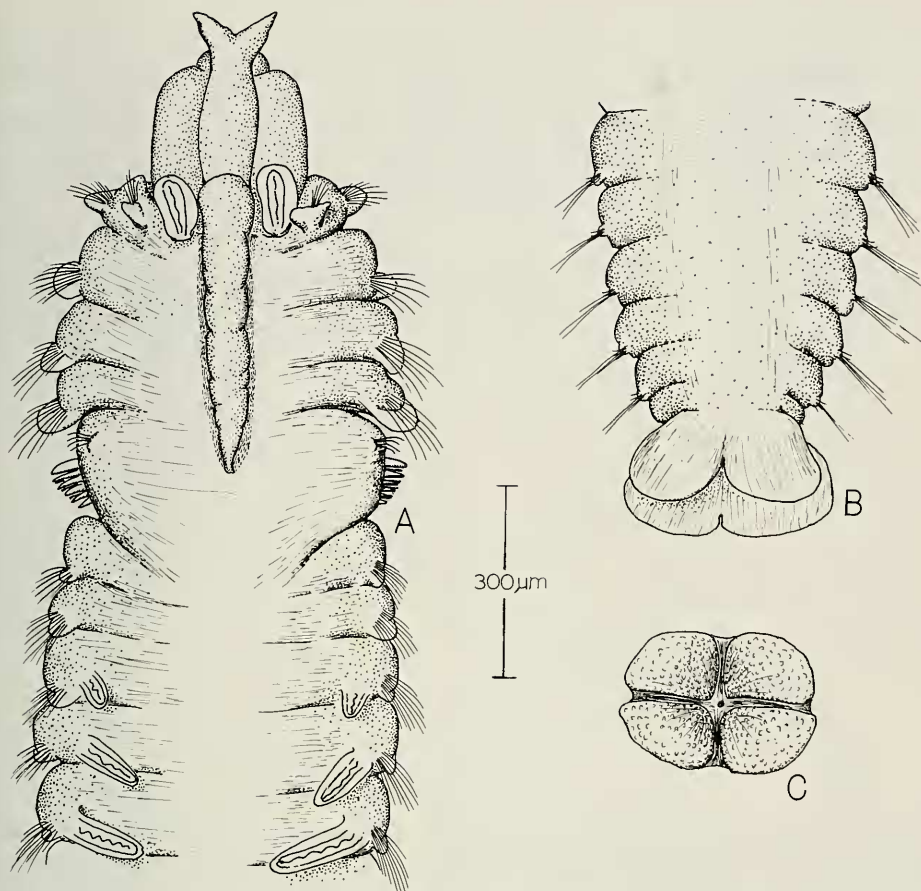


Fig. 1. *Polydora bifurcata* (paratype, USNM 58977): A. Anterior end in dorsal view; B. Posterior end in dorsal view; C. Pygidium in posterior view.

ilar in arrangement and form to notosetae; hooded hooks from setiger 7, numbering three to four hooks per neuropodium throughout most of body, accompanied by two to three inferior capillaries for about 20 segments; capillaries lacking thereafter; hooks lacking constriction on shaft (Fig. 2C), with reduced angle between teeth, but with wide angle between main fang and shaft; fringe of minute bristles present on hood opening.

Setiger 5 strongly modified, overlapping setiger 6 with heavy dorsal musculature (Fig. 1A); setae including a superior dorsal fascicle of broad geniculate bristled setae (Fig. 2B), a curved row of major spines alternating with bristled companion setae (Fig. 2A) and a ventral fascicle of unilimbated capillaries. Major spines falcate, with one large accessory tooth on curved edge and a thin, narrowly adhering spur on convex side.

Branchiae from setiger 8, short at first, reaching to full size by setiger 12, each gill extending maximally one-third of the distance across an individual segment.

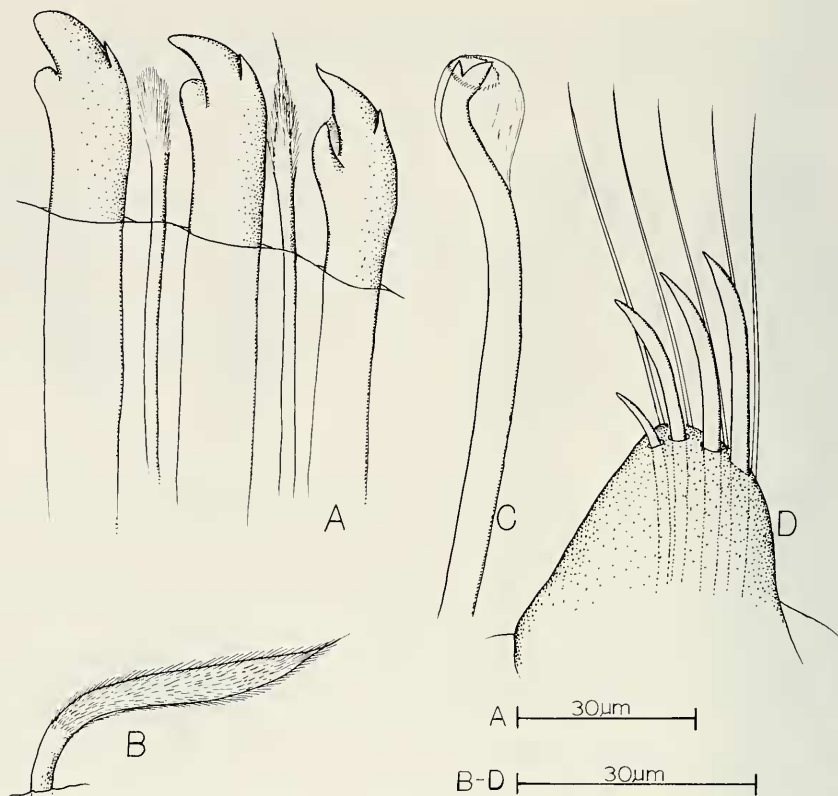


Fig. 2. *Polydora bifurcata* (paratype, USNM 58977): A. Three major spines and two companion setae from setiger 5; B. Geniculate dorsal seta from setiger 5; C. Hooded hook from an anterior neuropodium; D. Posterior notopodium in dorsal view, anterior edge toward the right, indicating position of acicular spines and capillaries.

Pygidium four-lobed (Fig. 1B-C), with dorsal pair being slightly smaller than ventral pair; each pygidial lobe with longitudinal striations composed of separate bacillary glands.

Remarks.—Among approximately 66 species of *Polydora*, *P. bifurcata* is most similar to the widespread *P. giardi* Mesnil and the central Pacific species, *P. tridenticulata* Woodwick (1964). Each of these species has an accessory tooth on the major spines of setiger 5, hooded hooks without a constriction or manubrium on the shaft and branchiae beginning from setiger 8 or more posteriorly. *P. bifurcata* differs from both of those species in having instead of lacking posterior notopodial spines and in having a pygidium with four lobes instead of a complete disc or cuff.

Polydora bifurcata was associated with two other polydorids, *P. giardi* and *Boccardia columbiana* Berkeley, in the *Lithophyllum* crusts. All three species bore directly into the alga.

Distribution.—Northern California in the vicinity of Tomales Point.

Literature Cited

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